

# AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint  
Agricolae." . . . VIRG.

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## AGRICULTURE.

From the Memoirs of the Philadelphia Agricultural Society.

### Notices for a Young Farmer,

Particularly on Worn Lands, &c. &c.

WITH NOTES BY THE EDITOR OF THE FARMER.

[Continued from No. 9, page 66]

*Change of crops recommended. Harrowing winter grain, in the spring. Plants should be accommodated to the soil, rather than the soil to the plant. Food of Plants; diversity of opinion concerning it. Changes of Forest Timber. Mr. Knight's theory as to ages of trees. Repetitions of same species of grain, or grass. Clover fails after frequent repetitions. Seed shallow, however deep, may be your breaking up.*

VII. *Change your crops*, and be satisfied with a good one on a small surface well prepared; taking a pride in clean and neat farming, rather than wasting your labour and means, in extensive, slovenly, and ill requited culture. Harrow your winter grain in the spring, in the direction of the seed furrows, or drills, and be not afraid of disturbing a few plants; manifold produce will remunerate for the few destroyed. The cracked and baked surface is thus pulverized, and the harbours for insects broken up. See Philadelphia Agricultural Memoirs, 3d. vol. 24, 50. The wheat plant throws out sets of roots in the successive stages of its growth, and most requires loose earth in its infancy.

Accommodate your plant to the soil, in preference to fitting your soil to the plant; every plant requiring a peculiar attention to its own habits and organization. The Author of Nature has placed in their proper element, both plants and animals, and they are suited to their designated positions. Sand or rock plants, perish in clay or rich soils, as do those calculated for fertile ground, in sand. See a valuable essay on this subject, 14th vol. Bath Society Papers, (1816) page 136. By a careful attention to the facts and principles developed in this essay, apparently barren sands and sterile clays, may be made to produce profitable crops of appropriate plants. Our sea coasts, on their dreary, sandy, or pebbly beaches, might be filled with *Marine Pea*, which will grow in defiance of the surges, spontaneously, after the first seeding, and produce perpetual crops of nutriment, for horned cattle, sheep and swine, either on sea coasts, or the borders of lakes. The *trifolium maritimum*, (sea trefol)

would grow luxuriantly in salt marshes, and take place of the inferior vegetation now occupying them. Many more instances, to show the principle, might be added. The *tussilago*, or colt's-foot, delights in meagre soils, and making them rich, especially with dung, will kill it. It were to be wished, that our wild garlick were thus vulnerable. Meagre soil of any texture, cannot equal that naturally fertile, in the production of any plant; but manure operates with double efficacy, on a plant in its proper soil. Nor is it intended to say, that, in all cases, changing a plant from a worse to a better soil, (avoiding extremes) is otherwise than salutary; for some plants are thereby improved. But such plants must not be those exclusively calculated for particular soils. *Wheat* is, fortunately, a plant capable of being indigenated in any soil or climate, yet of this grain, there are species growing better in some, than in other soils. There are wheats for sand, and wheats for clay. The grasses (commonly so called) have varieties, strikingly adapted to appropriate soils; and such peculiarities should be carefully studied.

It is not intended to enter into the questions—what is the food of plants? and whether particular soils are, more than others, furnished with the pabulum for the plants natural to them? and whether every plant requires specific food, which being exhausted, degeneracy or death ensues? The general opinion seems to be, that all draw their nourishment out of a common magazine, in the air and the earth; the organs of each being formed to draw the sustenance peculiar to it, and most of this from the air. Such questions are unsettled; various opinions being entertained concerning them. The changes of timber and plants in our forests, were mentioned as indications of nature, that our crops should be changed. Most unwarrantable imputations have been cast on the writer in the Philad. Memoirs, who communicated the circumstance, now known to every body, as if he believed in a new creation, or in equivocal generation, than which nothing is more groundless and untrue. See Philadelphia Memoirs, 2d vol. p. 358. Theorists "bears, like a Turk, no brother near the throne." But the fact were barely related, and no theory was attempted to be established.

Mr. Knight's theory, tested by strong facts, is now much credited, although at first received with great opposition. He alleges, that trees have their respective ages, beyond which the race becomes extinct. On fruit trees, many experiments seem to prove this idea correct. Grafting, or budding, from old trees, is now abandoned; it being asserted, that the one thus propagated, will endure no longer than the allotted age of the parent tree. This subject is elaborately treated, in

British publications; with which the curious inquirer may amuse, if not instruct himself.

The same kind of grain has been sown, in long succession, in several instances. But these, being exceptions to general experience, should be considered as anomalies. *Clover* fails, after frequent repetitions; and the Europeans interrupt the successions of this grass, by sowing *tares* and *vetches*. After such interruptions, clover may profitably again take its course in the rotation. And thus it will be with any other plant.

Whatever be your change of crops, good farming should be invariable. Wheat or barley, on worn lands, without good tillage and manure, will not repay the expense of culture. However deep you plough, *seed shallow*. (a) The coronal roots are formed near the surface, and the plume and radicles perish, in whatever depth the seed be deposited. The harrow lays your field more level and fit for a cover of grass, than the plough; and, on this account, many harrow in their grain, in preference to laying their fields in elevated lands; which, unless your soil be wet and low, are unnecessary. But care must always be taken to draw furrows, as drains, where water would be likely to remain, and drown, or scald your plants. A great advantage derived from harrowing in your grain, is, that after your field is prepared for seeding, you can rapidly sow and harrow in your seed, and have the choice of weather and other circumstances, which the more tedious process of ploughing in your seed, would not permit. The last ploughing may be in broad furrows, as deep as those desire who plough in their seed. This mode is equivalent to their practice, and has the additional advantage of the harrow. The idea of clods mouldering in winter, and protecting the plants, and laying deeper hold when grain is ploughed in, are excuses for bad culture. Pulverize your soil, and draw furrows for drains, when necessary, and the plant will root luxuriantly, and want no clod-mouldering.

Plaster old fields for pasture and subdue weeds.  
Some remarks on Plaster.

VIII. *Plaster your old fields*; which, being full of decayed and inert vegetable matter, on which the plaster acts, will throw up pasture, until you can cultivate them in course. We are not yet perfectly acquainted with all the pro-

(a) A valuable essay on the proper depth of sowing small grain is to be found in the *Richmond Enquirer*, written by Mr. Merriwether, dated 31st May, 1818: he concludes that it ought not to be deposited more than two inches below the surface. We shall soon publish it, with a cut, to demonstrate his theory on this subject.

perties of plaster. The general current of facts prove, that salt, and salt air, are hostile to its operations. And yet there are instances where it has succeeded on our sea-board, as well as on farms remote from our coast.

Subdue weeds, and other pests, in the fields thus plastered, and all others, by the scythe, and as much hand weeding as you can afford. Weeds are your deadly foes; but, in the compost heap they may be converted into friends (b). Whilst overrunning your fields, they are robbers of the food which would supply wholesome and profitable plants. The expense or labour of eradicating them, is far more formidable in contemplation, than in reality it will be found.

*Orchard Grass*; its value, and advantages over *Timothy* or *Clover*. Remarks on its culture, and seed. *Poa viridis*, or *Green Grass*. *Fiorin Grass*. *Poisonous plants* to be eradicated. *Botany*; its use in farming.

IX. *Sow Orchard Grass*; if in autumn, harrow it with your winter grain. Some prefer sowing it in the spring. Much depends on the soil and the season, and you can try both modes and periods, to enable you to form the best opinion. This grass will be permanent, when *clover* (with which it is a profitable companion) fails. It is, on uplands, preferable to *timothy*, which is a great exhauster—yields but one crop of hay, and little or no pasture, on dry soils; thus leaving the field bare of cover, and exposing it to the exhaustion of the sun and winds; whilst orchard grass, by its quick and repeated growths, affords a ceaseless cover and defence.

By thus recommending *Dactylis glomerata*, for permanent pasture and hay, it is not intended to cast the least reflection on the clover culture. This is now so commonly practised, and its uses so generally acknowledged, that it is unnecessary to dwell on its excellent properties. But the clover is fugacious, (short lived) and the orchard grass, sown with it, endures in uninterrupted vigour and usefulness, when clover, in dry seasons particularly, is burned or shrivelled, or has entirely departed, having lived out its short period of existence; or having been prematurely destroyed by frosts, to which it is often a victim. The *clover* and *plaster* are so congenial, and the improvement of the soils suitable for them so universally known, that any detailed notices of them would now be superfluous.

Raise your orchard grass seed, and do not spare it on your fields. Thin sowing throws up tufts, detached and coarse. You buy, in the shops, much chaff, and little seed; insomuch that a bushel weighs only from 14 to 16 pounds, at best, and some much less, barely sufficient for an acre. It should be sold by weight, and not by measure. No grass seed can be raised more plentifully and cheaply; and yet the expense of purchasing, has deterred its more general use.

It will be difficult to keep an old weedy farm long in grass; and the plough must, therefore,

(b) They ought to be deposited in the compost heap, before their seeds have matured, lest they should be propagated by scattering the manure before the seeds have been completely rotted.

be oftener used than a clean farm requires. Yet with composts, as top dressings, and destruction of weeds, wonders may be performed in a *grazing* system. But when the old sod is broken up, time, as well as good husbandry, with proper courses of crops, must be afforded. No winter grain should be sown, the first season of breaking up old grass lays. The stirring and culture of that and the ensuing year, are necessary to ensure the complete destruction of weeds and other unprofitable vegetation.

If you should be so fortunate as to conquer weeds and pests, and obtain a clear cover of the *poa viridis*, or green grass, which will not grow unmixed in all soils; it is not to be told how long your fields, with top dressings, will continue without being disturbed by the plough, if scarified, when surface-bound, by a proper instrument. This grass appear to be native, though not peculiar, to this country; and it must, according to general experience, grow spontaneously.

Plants spring up in soils in which they are indigenous, without previous seeding. The experiment of cleaning by tilling, and meliorating by manure, worn out lands, and suffering them to throw up grasses spontaneously, has decisively succeeded, so as to ensure valuable crops of the appropriate kinds; which finally established themselves, after contending with intruders for a time. *White clover* seems most universally native; but *this* grows better in some than in other soils.

Those who do not attend to the laws of nature in this regard, suppose that they can, with plenty of manure, force plants in any soil; but this is a great mistake. *Gorging* land with dung, for any product, is expensively ruinous. There is no surer mode of first deteriorating, and finally destroying any plant out of its natural soil, than that of lavishly dunging it. And this misapplied extravagance, is injurious to plants, either of rich or poor soils. The latter are, however, the soonest killed by high dunging.

Yet, take it for all in all, changing crops, or what is called convertible husbandry, in which grass, for a reasonable period, is only a part of the rotation, will be found the most suitable to the circumstances of our country; save in such grounds in which the plough cannot be fitly introduced, and are, from their nature and situation peculiarly calculated for grass. For many such soils, those particularly which are boggy and wet, it would be unpardonable not to mention the *Agrostis Stolonifera*, or *Fiorin* grass; by means whereof wonderful improvements might be introduced, in soils fit for no other crop. Its reputation is now so completely established in Great Britain and Ireland, that objections to its culture have been entirely overcome. Failures in England have occurred, from want of care in cultivating the true species; and thus bringing its character in disrepute. The *agrostis vulgaris*, has been used, instead of the *stolonifera*, than which there cannot be a greater mistake. Those who make experiments among us, should be very careful to obtain the true kind of this plant. It is a wise plan to cultivate and bring to the most perfect state, the plants congenial to your soil, and to avoid forcing, by artificial and expensive operations, the growth of those which only serve a turn and do not permanently abide,

or are subject to disease and casualties, which appropriate plants escape. Although *fiorin* will grow in most soils, it can only be profitably employed in moist, or boggy grounds.

Be careful to eradicate all *poisonous plants*, in your pastures and fields. You will find in books, what you want in experience, proofs of the necessity of this precaution; and you will learn the dangers to which cattle are liable in this regard. Some plants are poisonous to some beasts, though safe and salutary to others. A reasonable knowledge of the useful parts of *Botany*, without burthening yourself with its endless nomenclature, would enable you to distinguish plants and their properties. A *pocket magnifying glass* should always be at hand, as not only highly useful in distinguishing plants and the enemies infesting them, but by it you could examine the particles composing earths, and ascertain their qualities and uses. This would afford entertainment, whilst it promoted your interests. Nothing is more necessary in the inspection of seed, whether of grain or grasses; you can discover, by your glass, unsoundness or malady in the one, and mixtures of worthless and injurious seeds in the other. No person should trust the naked eye, when purchasing grass seeds particularly, wherein poisonous or pestiferous seeds are frequently mixed, and many are so minute as to be invisible to unassisted sight.

(To be continued.)

From the *Albany Argus*.

## Treatise on Agriculture.

### SECTION I.

#### Of the rise and progress of Agriculture.

The origin of this art is lost among the fables of antiquity, and we have to regret, that in the present state of knowledge, we are even ignorant of the time, when the plough was invented, and of the name and condition of the inventor. When, therefore, we speak of the beginning of the art, we but allude to certain appearances which indicate its existence, and the employment given by it to the minds, as well as to the hands of mankind. Such were the artificial canals and lakes of Egypt. Menaced at one time by a redundancy of water, and at another by its scarcity of want, the genius of that extraordinary people could not but employ itself, promptly and strenuously, in remedying these evils, and eventually, in converting them into benefits; and hence it was, that when other parts of the world exhibited little more of agricultural knowledge than appertains to the state of nature, imagined by philosophers, the Egyptians thoroughly understood and skilfully practised *irrigation*, that most scientific and profitable branch of the art. (1) Like their own Nile, their population had had its overflow, which colonized Carthage and Greece, and carried with it the talent and intelligence of the mother country. The former of these states, though essentially commercial, had its *planta-*

(1) The best practical illustration of this opinion is found in the valley of the Po—where “every rod of earth maintains its man.”



tions, and so highly prized were the agricultural works of Mago, that when Carthage was captured, they alone, of the many books found in it, were retained and translated by the Romans. A similar inference may be drawn from the history of Greece; for assuredly that art could not have been either unknown or neglected, which so long employed the pen and the tongue of the great Xenophon. (2) It must, however, be admitted, that of the ancient nations, it is only among the Romans, that we find real and multiplied evidences of the progress of the art; facts, substituted for conjectures and inferences. Cato, Varro, Columella, Virgil and Pliny, wrote on the subject, and it is from their works we derive the following brief exposition of Roman husbandry.

The plough, the great instrument of agricultural labour, was well known and generally used among them; it was drawn exclusively by horned cattle. Of fossile manures, we know that they used lime and probably marl. (3) and that those of animal and vegetable basis, were carefully collected. Attention to this subject, even made part of the natural religion; the dunghill had its god, and Stercutus, his temple and worshippers. Their corn crops were abundant; besides barley and far, (4) they had three species of wheat; the robur or red—the siligo or white—and the triticum trimestre, or summer wheat; they had, besides, millet, panis, zea, (Indian corn) and rye, all of which producing a flour convertible into bread, were known by the common name of frumentum. Leguminous crops were frequent; the lupin, in particular, was raised in abundance, and besides being employed as a manure, (5) entered extensively into the subsistence of men, cattle and poultry. The cultivation of garden vegetables was well understood and employed many hands; and meadows, natural and artificial, were brought to great perfection. Lucern and fenu-gree were the basis of the latter, and peas, called farrago, were occasionally used in the stables as green food. Their flocks were abundant, and formed their first representative of wealth, as is sufficiently indicated, by their word pecunia. Vines and olives and their products (wine and oil) had a full share of attention and use. The rearing of poultry made an important part of domestic economy, nor were apiaries and fish ponds forgotten or neglected.

Such was the husbandry of Rome, when Rome was mistress of the world, and it was to this illustrious period that Pliny alluded, when (speaking of the ancient fertility of the soil) he re-

(2) Xenophon wrote several treatises on husbandry, and gave public lectures on it, at Scilonte, whither a weak and wicked government had banished him.

(3) For the first part of this assertion we have the authority of Pliny; for the latter, the practice of their colonies both in Gaul and Britain.

(4) Of this last, there were three kinds, neither of which is now cultivated.

(5) The lupinus albus, of Linnæus: "many other vegetables are used for this purpose, particularly the bean, but do not answer as well as the lupin; when this is heated in an oven and then buried, it forms the most powerful of all manures." T. C. L. Simonde. *Tableau de l'Agriculture Toscane.*

marked "that the earth took pleasure in being cultivated by the hand of men, crowned with laurels and decorated with triumphal honours."

If we pause for a moment, to glance at the civil institutions of this wonderful people, we discover how soon and how deeply it entered into their policy not merely to promote, but to dignify agriculture and its professors. (6) When Cicero said, that "nothing, in this world, was better, more useful, more agreeable, more worthy of a freeman than agriculture," (7) he pronounced, not merely his own opinion, but the public judgment of his age and nation. Were troops to be raised for the defence of the republic—the *tribus rusticus* was the privileged nursery of the legion! (8) Did exigencies of state require a general or dictator—he was taken from the plough! Were his services rewarded—this was not done, with ribands or gold, but by a donation of land. (9)

With such support from public opinion, it was not to be supposed, that the laws would be either adverse, or indifferent to this branch of industry; we accordingly find the utmost security given to the labours of the husbandman; (10) no legislative interposition between the seller and buyer; neither forced sales—nor limitation of prices, and a sacredness of boundaries never disturbed; (11) fairs and markets multiplied and protected against invasion or interruption, (12) and highways leading to these, every where established, and of a character to call forth benedictions and admiration. (13)

Nor were these regulations confined to the proper territory of Rome; what of her own policy was good, she communicated to her neighbours; what of theirs was better, she adopted and practised herself. Her arts and arms were therefore constant companions; wherever her legions marched, her knowledge, practices and implements followed; and it is to these, we are to look for the foundation of modern agriculture in Italy, France, Spain, &c.

## SECTION II.

### *Of the actual state of Agriculture in Europe.*

This is very different in different states, and even in different parts of the same state; its greater or less degree of perfection, depending on causes physical, or political, or both. Where a state, or part of a state, from soil, climate, manners, or geographical position, draws its principal subsistence from the fishery or the chase, as in the more northern parts of Europe, agriculture will not succeed; when a state is from any cause both essentially maritime or manufacturing, as in England, or principally manufac-

(6) Tanus and Numa were deified for services rendered to agriculture.

(7) Cicero de officiis. l. 2.

(8) This continued to the time of Marius.

(9) As much as he could plough in a day.

(10) To cut or destroy in the night the crop of his neighbour, subjected the Roman to death.

(11) Terminus was among their gods.

(12) Assemblies of the people on days designated for fairs, and on subjects other than those of trade, were not lawful.

(13) The Appian way, yet remains the wonder and reproach of modern times.

turing, as in Prussia; where public opinion has degraded manual labour, as in Spain, Portugal, and the Papal territory; or where laws villainize it, as in Russia, Prussia, Poland or Hungary, &c. &c. it is in vain to expect pre-eminent agriculture. These principles will receive illustration as we go along.

1. In the Campania of Rome, where in the time of Pliny were counted twenty-three cities, the traveller is now astonished and depressed at the silence and desolation that surround him. Even from Rome to Trescati, (four leagues of road the most frequented) we find only an arid plain, without trees, without meadows, natural or artificial, and without villages, or other habitations of man! Yet is this wretchedness not the fault of soil or climate, which (with little alteration) (14) continue to be what they were in the days of Augustus. "Man is the only growth that dwindles here," and to his deficient or ill directed industry, are owing all the calamities of the scene. (15) Instead of the hardy and masculine labours of the field, the successors of Cato and Pliny employ themselves in fabricating *sacred vases, hair powder and pomatums, artificial pearls, fiddle strings, embroidered gloves, and religious relics!* They are also great collectors of pictures, statues and medals—"dirty gods and coins," and find an ample reward in the ignorance and credulity of those who buy them.

2. How different from this picture is that of Tuscany! where the soil, though less fertile (16) is covered with grains, with vines and with cattle; and where a surface of 1200 square leagues, subsists a population of 950,000 inhabitants, of which 80,000 are agriculturists. It may amuse, if it does not instruct, the reader, to offer a few details of a husbandry, among the most distinguished of the present age. The plough of the north of Europe, as of this country, has the powers of a wedge, and acts perpendicularly; but that of Tuscany resembles a shovel, is eight or nine inches long and nearly as broad, and cuts the earth horizontally. This instrument is particularly adapted to the loose and friable texture of the soil. A second plough, of the same shape, but of smaller size, follows that already described, and with the aid of the hoe and the spade, throws the earth, already broken and pulverized into four feet ridges, or beds, on which the crop is sown. The furrows answer a three-fold purpose: they drain the beds of excessive

(14) The climate of Italy is now warmer than it was in the Augustan age, which Buffon ascribes to the draining of great tracts of Swampy land in Germany.

(15) "Romain meme le plus indigent rougit de cultiver la terre." Bosc.

(16) "Two thirds of Tuscany consists of mountains." Vol. viii. p. 232. *Geographic Mathematique et physique*: See also Forsyth's remarks, p. 80, where are detailed the principal causes of her prosperity. "Leopold, says he, 'in selling the crown lands, studiously divided large tracts of rich but neglected land, into small properties. His favourite plan of encouraging agriculture consisted, not in boards, societies and premiums, but in giving the labourer a security and interest in the soil—in multiplying small freeholds—in extending the livelli or life leases,' &c. &c."

moisture, ventilate the growing crops and supply paths for the weeder.

The rotation of crops, employs two periods of different length; the one of three, the other of five years. In the rotation of three years, the ground is sown five times, and in that of four years, seven times, as follows:

- 1st year, wheat, and after wheat lupins:
- 2d do. wheat, and after wheat turnips:
- 3d do. Indian Corn or millet.
- 1st year, wheat, and after the wheat beans:
- 2d do. wheat, and after wheat lupins:
- 3d do. wheat, and after wheat lupinella: [annual clover.]
- 4th do. Indian Corn or millet.

In the *Syriac Maremma*, where the lands want neither repose nor manure, the constant alternation is *heft* and *wheat*, and the produce of the latter, often twenty-four bushels threshed, for one sown.

It will be seen from this course of crops, that the principal object of the Tuscan agriculture, is wheat; of which they have two species, the one bald, the other bearded; both larger than the corresponding species in other countries of Europe; convertible into excellent bread and pastes, and probably but varieties of that *Sicilian family*, which Pliny describes, as yielding "*most flour and least bran, and suffering no degradation from time*." It is harvested about the middle of June, and when the grain crop is secured, the ploughing for the second, or forage crop, begins; which besides lupins, lupinella and beans, often consists of a mixture of lupins, turnips, and flax, the lupins ripen first and are gathered in autumn; the turnips are drawn in the winter, and the flax in the spring.

Besides the application of *ordinary manures*, the lupin is ploughed down, when in flower; a practice that began with the Romans: Columella says, of "all leguminous vegetables, the lupin is that which most merits attention, because it costs least, employs least time, and furnishes an excellent manure." The culture of this vegetable, is different, according to the purposes for which it is raised; if for grain, the ground has two ploughings and twenty-five pounds weight of seed to a square of a hundred toises; if for manure, one ploughing is sufficient. Like our buckwheat its vegetation is quick and its growth rapid; whence the farther advantages of suppressing, and even of destroying the weeds that would have infested any other crop. In the neighbourhood of Florence, they are in the practice of *burning the soil*; which they do by digging holes, filling them with faggots and raising the earth into mounds over them. The faggots are then inflamed and burnt and with them the incumbent earth, which is afterwards scattered, so as to give the whole field the same preparation.

(To be continued.)

The Sciota (Ohio) Gazette, of May 14, says: "On Friday morning last two wagons, loaded with specie, from the Branch of the United States' Bank in this place, took up the line of march for Philadelphia. The amount of specie which has thus left our state, is estimated at from 120,000 to \$140,000."

## From the Practical American Gardener.

[Published by Fielding Lucas.]

### For the month of June.

#### General Observations.

Sift some loose earth over the seedling firs and pines, as high as their seed leaves; trim up evergreens. Budding may now be practised on most kinds of trees and shrubs; but it would be much better to be done the latter end of July. Rub off all young shoots proceeding from the stocks, which are independent of the grafts, or the inserted bud shoots.

#### Propagating Evergreens, &c. and Shrubs, by layers.

Most kinds of evergreens, and deciduous trees and shrubs, may now be propagated, by laying the present year's shoots: being soft and tender, they will emit roots much more freely than the older wood, and several kinds that would not root for two years, if laid in spring or autumn, by this method, will be well rooted the autumn twelve months after laying, and many kinds before the ensuing winter. Virgin's bower, Passion-flowers, Trumpet-flowers, common Jassamine, and most of the climbing plants, root immediately; when laid in this month, water them occasionally in dry weather, and lay mulch around them.

#### On Inoculation, or Budding.

Provide a neat sharp budding knife, with a flat thin shaft of ivory, suitable to open the bark of the stock, for the admission of the bud, and also get a sufficiency of bass strings, or shreds of Russian mats, or woollen yarn, to bind round it when inserted.

In the first volume of the transactions of the London Horticultural Society, the following improved mode of inoculation is described by Mr. Knight: In the month of June, when the buds are in a proper state, the operation is performed, by employing two distinct ligatures, to hold the buds in their places; one ligature is first placed above the bud inserted, and upon the transverse section through the bark, the other, the only office of which is to secure the bud, is applied in the usual way; as soon as the buds have attached themselves, the lower ligatures are taken off, but the others are suffered to remain. The passage of the sap upwards is in consequence much obstructed, and the inserted buds begin to vegetate strongly in July; when these afford shoots about four inches long, the upper ligatures are taken off, to permit the excess of sap to pass on; the wood ripens well, and affords blossoms sometimes for the succeeding spring.

It will be perceived, that instead of the usual mode of budding, after the commencement of the autumnal flow of sap, and keeping the bud without shooting until the following spring, when the top of the stock is cut off, this improved mode gains a season, in point of maturity, if not of growth, and has the effect of ingrafting the preceding spring, in all cases where the bud sprouts in the proper time, to form a strong shoot, capable of sustaining without injury, the frost of the ensuing winter.

#### Hyacinths, Tulips, and early flowering Bulbs in general.

Hyacinths, tulips, and all the different kinds of spring flowering bulbs, such as fritillarias, crown imperials, crocuses, snow drops, &c. whose leaves are now decayed, may be taken up and treated, as directed for last month.

#### Ranunculus and Anemones.

When the flower stems and foliage of these are brown and dry, vegetation has ceased, and it is then suitable to take up the roots, to prevent them from shooting afresh before the right time. When the roots are taken up, their stems, &c. should be cut off close, and they placed in a shady, airy situation, free from wet, to dry gradually; previous to their being perfectly dry, they must be cleaned and separated; as they become very brittle, there is danger of breaking them improperly into small pieces; it is best to leave the roots as large as well may be, although they can sometimes be separated into many complete roots, and yet they are so closely connected, as to have the appearance of a single root.

#### Hardy autumnal flowering Bulbs.

The beginning or middle of this month, will still an-

swer to take up the yellow amaryllises, colchicums, autumnal crocuses, and such other autumnal flowering bulbs, as have their leaves decayed. After drying them, and separating the off-sets, &c. they may be planted again, or kept until July, and then planted. It is not absolutely necessary, to take up these roots oftener than once in three years.

#### Guernsey and Belladonna Amaryllis.

The roots of the Guernsey and Belladonna amaryllises, if their leaves are quite decayed, may be taken up, their off-sets separated, and planted immediately in pots. They flower in October and November; they must be protected from the early frosts, and may be treated as green house plants.

#### Cyclamen.

There are five kinds of cyclamens; 1. round leaved spring; 2. European; 3. Persian spring; 4. Persian fall cyclamen; 5. ivy leaved cyclamen. These are all green-house plants. They should have as much air and light as well may be, yet preserved from frosts. The leaves being generally decayed about this time, the roots may be taken up, and re-planted immediately into a composition of one half good loamy earth, one fourth sand, and one fourth light moory earth, well incorporated together, for some time before it is wanted.

The first and second sorts flower in January and February, the third in March or April; the fourth and fifth in September and October. They continue a long time in bloom. The pots which contain the plants, must not be exposed to the sun or much moisture, during the summer months; for although they are at this time in a dormant state, they would be injured thereby.

The best method of increasing these is from seed, which should be sown soon after they are ripe, or early in spring, and covered about half an inch deep; they must always be protected from frost and the summer sun. Any time in the summer of the second or third year, when the leaves are decayed, they may be treated as the old roots, and in the third or fourth year, with proper management, they will flower.

#### Carnations and Pinks.

Your superb carnations and pinks will now be coming into bloom: they should be protected, by an awning, from severe rains, and the extreme heat of the sun.

The methods of continuing a succession of particular sorts which you already possess, are, 1. by piping, or laying; 2. by slips taken from them in spring or autumn. It is a suitable time when the plants begin to show their flowers, to select the kinds for seed; from among the pinks, choose those which possess superior qualities, and let but one or two flowers remain on each stalk, breaking off the rest, that the whole strength of the plant may go into the remaining pods.

#### Propagating Carnations, &c. by Laying and Piping.

1. Laying.—When carnations and pinks are propagated from the shoots, connected with the parent plant, until after they have taken root, the operation is called laying. This is to commence as soon as the plants are in full bloom.

Previous to laying, provide a number of wooden pegs, with a hooked end, a sharp pen-knife, and some good compost earth.

A suitable layer should have three, four, or five pints, the lower leaves next the root are all to be stripped off close, to within two joints of the extremity of the layer, the leaves are to be shortened, so as to be left about two inches in length.

The surface of the pot is then to be cleared, well stirred about one inch deep, and afterwards filled up nearly level with light rich compost. After this, make the incision, by introducing the knife, on that side the layer next the ground, in a sloping direction upwards, to begin a quarter of an inch below the second or third clean joint, from the top, and continue through the middle of that joint, and half an inch above it; the small part left beneath the joint, to be cut off close to the joint, but not into it, horizontally, yet not so as to wound the outer part, which preserves the communication of the sap; the fibres proceed from the outer circle of the joint. The layer is to be gently pressed down to the earth, (be very cautious neither to break or crack it at the joint) and to be kept there by one of the hooked pegs, before-mentioned, which is to be forced into the soil, just behind the joint, where the incision was made,



the layer is supported in such a manner, that the slit may be kept a little open, a grain or two of wheat will answer this purpose. The joint from whence the fibres shoot, should be covered, with only an inch of compost. In five or six weeks' time from being layed, they frequently have roots sufficiently strong to be removed.

2. Piping.—Prepare a bed of fine light mould; water it moderately, and mark with a hand-glass the place in which to set the pipings, so as to be planted, that when the glass is set over them, it may not touch them.

The cuttings to be piped, are to be cut off horizontally, close under the second joint, the leaves also to be shortened, as for laying, which will leave the whole length of the piping two or three inches: they are then to be thrown into a basin of soft water for a few minutes. In this wet state, they are to be set in the earth about an inch and a half deep in the circle marked by the glass; when a sufficient number about two inches asunder, are set in the circle so as to admit the cover to be placed on, without touching them; they are then to be gently watered and left exposed to the air, but not to the sun, until their leaves become perfectly dry; after which the glass is placed over them carefully, and the bottom edges to be forced a little into the earth, to keep out the effects of the external air, and to preserve a moist atmosphere about the pipings, till their young radicles are established, and begin to act; for if fully exposed to the air before that period, it would carry off from the leaves, &c. a greater proportion of moisture, than the young plants, in their present weak state, could imbibe from the earth, and they must, of course, perish. This is the particular reason, why cuttings of every kind succeed better, when thus treated, than when left exposed to the influence of the weather. They should have a small portion of the morning sun, but shaded from it, when the heat increases, by placing mats on a frame of hoops, about two feet above the glasses. The glasses should be taken off, for half an hour at a time, early in the morning, or late in the afternoon, to admit fresh air, to prevent the plants becoming mouldy.

When the fibres are formed, which the verdure of the plants will evidence, more air should be occasionally admitted, and when they become tolerably well rooted, the glass may be taken away; continue to water them frequently, but moderately, as they progress in growth.

Some sorts of carnations succeed much better by piping, than by laying, and make healthier plants; experience alone can enable the gardener to determine.

The directions given in article 2, will answer for the cuttings of delicate exotics, as well as cuttings of all kinds of plants, which are so propagated; and whenever cuttings are planted, the above directions may be followed.

All fibrous rooted plants may be propagated by cuttings, as the double scarlet-lychnis, double rocket, phloxes, with many others, by cuttings of the flower stalks, managed as directed above.

#### Planting Carnations and Pink Seedlings.

As it is supposed, that some seed from each of these flowers, are sown every year, to procure new varieties; therefore those sown early in spring, may now be planted into nursery beds, in rows, ten or twelve inches asunder, there to remain until they show their flowers, when the single, and less valuable, may be pulled out, the best marked for laying and piping, and the others planted out.

#### Propagating double Sweet-Williams.

The fine kinds of these, may now be propagated, either by slips or layers. But as they are so easily raised from seeds, of which they produce abundance in the middle states, it is recommended, to sow the seeds for new varieties, and only slip, lay, or part the roots of the best.

#### Transplanting Annuals.

The different kinds of annuals, which will bear transplanting, may now be taken from places where they stand too close, and planted elsewhere, such as French marigold, China asters, China pinks, China holyhocks, cocks-combs, chrysanthemums, balsams, amaranthus of various sorts, gomphrena globosa, and many other kinds, plant them in moist or cloudy weather, taking up as much earth as possible about their roots, and giving them

shade and frequent waterings, until they evidence that they are newly rooted.

#### Thinning and Supporting Flowering Plants.

Annual flowering plants, the seeds of which have been sown in patches, and have grown too thick, must be thinned to proper distances, according to their respective habits of growth, so as to allow them full space, to attain the utmost perfection.

Support the various climbing plants, as before directed.

Cut off close to the ground, all decaying flower stems of perennials, except such as are intended to save seed from; clear off all dead leaves, weeds, &c.

Trim, dress, and tie up all plants which require it.

#### Transplanting Seedling Perennials and Biennials.

Transplant from the seed-beds, the early sown perennial and biennial seedling plants, that are grown to a sufficient size; such as sweet-williams, sweet-scented, rose campion, Canterbury bells, and monk's hood; soapwort, asters and rhezias; coriopsis, dracopcephalums, &c.

Plant these out in suitable beds, of good earth, by line, six inches every way, water them immediately and repeat it frequently, giving them occasional shade from the hot sun, until they have taken root. They are to remain in these beds, until autumn, or spring, and then to be planted out finally, where they are to remain.

#### Stock Gillsflowers and Wall Flowers.

Stock gillsflowers and wall flowers are not sufficiently hardy, to bear the winter frosts of the eastern or middle states; therefore it will be necessary, to plant the seedlings of these kinds, in some convenient place, where a garden frame may be set over them, in winter, on which to lay boards or any slight covering for their protection, as directed in November.

#### Additional Remarks.

The flower borders, beds, &c. and all other ornamental compartments, must now be kept remarkably clean and neat, and no weeds suffered to grow to any considerable size, in those places.

Occasional waterings must be given, to all your late planted shrubs and flowers, particularly to the annual perennial and biennial flower plants, newly planted into nursery beds.

Your entire stock of plants, in pots and boxes, seedlings, and others, must be watered as often as the earth about them becomes dry; and there must be due attention given to these to preserve them through the season.

#### General Observations.

The plants being now fully exposed to the open air, will require a constant supply of water. In very hot weather, those in small pots should be watered both morning and evening, using clean soft water, without any thing put in it, which would always injure the plants.

If moss or mowings of short grass be spread on the surface of the earth, in the tubs and pots, it will materially protect the plants from the sun and drying air.

Myrtles or other hard wooded plants, which appear in a declining state, may be greatly benefited, by turning them out of their pots with all the earth to their roots, and setting them in the open borders, till September, when they are to be taken up, with balls of earth around them, and re-planted in suitable sized pots or tubs; after which they are to be placed in the shade till housed.

#### Propagating the Plants.

Geraniums, hydrangeas, jasmines, myrtles, China, and Otaheite roses, and almost every other kind of shrubby and under shrubby plants, may be propagated towards the middle or latter end of the month, by slips or cuttings of the present year's wood. Dress them by taking off the under leaves; plant them three or four inches deep into beds of light rich earth, where they can be occasionally shaded and watered till rooted. The covering of them with bell glasses will greatly facilitate their rooting and growth, which is the most suitable way of effecting it, particularly for woody plants, and such as are not succulents.

The succulent plants are to be propagated agreeably to former directions.

#### Transplant Seedling Exotics.

Now transplant singly, into small pots, any seedling exotics, which have been raised from seed this year; give them shade and water.

#### Budding.

Any time this month, bud oranges, lemons, &c. The buds are to be taken from the shoots produced last autumn, which will now take freely, and handsome shoots will be formed the present year. For the method of budding, see Nursery, June.

#### Cape and other Green House Bulbs.

The cape bulbs and tuberous rooted plants, whose leaves are now decayed, such as anthonizas, gladioluses, ixias, moreas, ornithogolums, &c. may be taken up, and transplanted immediately, or they may be wrapped in dry moss; and kept till September; but the cyclamens, &c. should be planted immediately after being taken up and cleaned, and all the autumnal flowering bulbs, as the Guernsey and Belladonna anaryllis; to keep these last out of the ground longer than the middle of July, would materially weaken them.

## MISCELLANY.

### SELECTIONS.

#### MR. WHITEFIELD.

*Account of the arrival, character and preaching, of the celebrated Mr. WHITEFIELD, by Doct. FRANKLIN.*

In 1739, arrived among us, from Ireland, the reverend Mr. Whitefield, who had made himself remarkable there as an itinerant preacher. He was, at first, permitted to preach in some of our churches; but the clergy taking a dislike to him, soon refused him their pulpits, and he was obliged to preach in the fields. The multitude of all sects and denominations that attended his sermons, were enormous, and it was a matter of speculation to me, (who was one of the number) to observe the extraordinary influence of his oratory on his hearers, and how much they admired and respected him notwithstanding his common abuse of them, by assuring them, they were naturally *half beasts, and half devils*. It was wonderful to see the change soon made in the manners of our inhabitants. From being thoughtless or indifferent about religion, it seemed as if all the world were growing religious, so that one could not walk through the town in an evening without hearing psalms sung in different families of every street. And it being found inconvenient to assemble in the open air, subject to its inclemencies, the building of a house to meet in, was no sooner proposed, and persons appointed to receive contributions, but sufficient sums were soon received to procure the ground, and erect the building, which was one hundred feet long, and seventy broad; and the work was carried on with such spirit, as to be finished in a much shorter time than could have been expected. Both house and ground were vested in trustees, expressly for the use of *any preacher, of any religious persuasion*, who might desire to say something to the people at Philadelphia. The design in building not being to accommodate any particular sect, but the inhabitants in general; so that even if the Mufti of Constantinople, were to send a missionary to preach Mahomedanism to us, he would find a pulpit at his service.

Mr. Whitefield, on leaving us, went preaching

all the way through the colonies to Georgia. The settlement of that province had lately been begun, but instead of being made with hardy, industrious husbandmen, accustomed to labour, the only people fit for such an enterprise, it was with families of broken shop-keepers, and other insolvent debtors; many of indolent and idle habits, taken out of the jails, who being set down in the woods, unqualified for clearing land, and unable to endure the hardships of a new settlement, perished in numbers, leaving many helpless children unprovided for. The sight of their miserable situation, inspired the benevolent heart of Mr. Whitefield, with the idea of building an orphan-house there, in which they might be supported and educated. Returning northward, he preached up this charity, and made large collections: for his eloquence had a wonderful power over the hearts and purses of his hearers, of which I myself was an instance. I did not disapprove of the design, but as Georgia was then destitute of materials and workmen, and it was proposed to send them from Philadelphia, at a great expense, I thought it would have been better to have built the house at Philadelphia, and brought the children to it. This I advised, but he was resolute in his first project, rejected my counsel, and I therefore refused to contribute. I happened soon after, to attend one of his sermons, in the course of which I perceived he intended to finish with a collection, and I silently resolved he should get nothing from me: I had, in my pocket, a handful of copper money, three or four silver dollars, and five pistoles in gold; as he proceeded, I began to soften, and concluded to give the copper. Another stroke of his oratory, made me ashamed of that, and determined me to give the silver; and he finished so admirably, that I emptied my pocket wholly, into the collector's dish, gold and all! At this sermon, there was also one of our club, who, being of my sentiments respecting the building in Georgia, and suspecting a collection might be intended, had, by precaution, emptied his pockets before he came from home; towards the conclusion of the discourse, however, he felt a strong inclination to give, and applied to a neighbour, who stood near him, to lend him some money for the purpose. The request was fortunately made to perhaps the only man in the company, who had the firmness not to be affected by the preacher. His answer was "*At any other time, friend Hopkinson, I would lend to thee freely; but not now, for thee seems to me to be out of thy right senses.*"

Some of Mr. Whitefield's enemies affected to suppose, that he would apply these collections to his own private emolument; but I, who was intimately acquainted with him, (being employed in printing his sermons, journals, &c.) never had the least suspicion of his integrity; but am, to this day, decidedly of opinion, that he was, in all his conduct, a perfectly *honest man*; and methinks, my testimony in his favour, ought to have the more weight, as we had no religious connexion. He used indeed sometimes to pray for my conversion, but never had the satisfaction of believing that his prayers were heard. Ours was a mere civil friendship, sincere on both sides, and lasted to his death. The following instances will show the terms on which we stood. Upon

one of his arrivals from England, at Boston, he wrote to me that he should come soon to Philadelphia, but knew not where he could lodge when there, as he understood his old friend and host, Mr. Benezet, was removed to Germantown. My answer was, you know my house; if you can make shift with its scanty accommodations, you will be most heartily welcome. He replied, that if I made that kind offer for *Christ's* sake, I should not miss of a reward. And I returned, "don't let me be mistaken; it was not for *Christ's* sake, but for *your* sake." One of our common acquaintance jocosely remarked, that, knowing it to be the custom of the saints, when they received any favour, to shift the burthen of the obligation from off their own shoulders, and place it in heaven; I had contrived to fix it on earth.

The last time I saw Mr. Whitefield, was in London, when he consulted me about his orphan-house concern, and his purpose of appropriating it to the establishment of a college.

He had a loud and clear voice, and articulated his words so perfectly, that he might be heard and understood at a great distance; especially, as his auditories observed the most perfect silence. He preached, one evening, from the top of the Court-House steps, which are in the middle of Market Street, and on the west side of Second Street, which crosses it at right angles. Both streets were filled with his hearers to a considerable distance: being among the hindmost in Market Street, I had the curiosity to learn how far it could be heard, by retiring backwards down the street towards the river, and I found his voice distinct till I came near Front Street, when some noise in that street obscured it. Imagining then a semicircle, of which my distance should be the radius, and that it was filled with auditors, to each of whom I allowed two square feet; I computed that he might well be heard by more than thirty thousand. This reconciled me to the newspaper accounts of his having preached to 35,000 people in the fields, and to the histories of generals haranguing whole armies, of which I had sometimes doubted.

By hearing him often, I came to distinguish easily between sermons newly composed, and those which he had often preached in the course of his travels. His delivery of the latter was so improved by frequent repetition, that every accent, every emphasis, every modulation of voice, was so perfectly well-turned and well-placed, that without being interested in the subject, one could not help being pleased with the discourse; a pleasure of much the same kind with that received from an excellent piece of music. This is an advantage itinerant preachers have over those who are stationary, as the latter cannot well improve their delivery of a sermon by so many rehearsals. His writing and printing, from time to time, gave great advantage to his enemies; unguarded expressions and even erroneous opinions delivered in preaching, might have been afterwards explained or qualified, by supposing others that might have accompanied them; or they might have been denied; but *littera scripta manet*: critics attacked his writings most violently, and with so much appearance of reason, as to diminish the number of his votaries, and prevent their increase. So that I am satis-

fied, that if he had never written any thing, he would have left behind him, a much more numerous and important sect; and his reputation might, in that case, have been still growing, even after his death; as there being nothing of his writing on which to found a censure, and give him a low character, his proselytes would be left at liberty to attribute to him as great a variety of excellencies, as their enthusiastic admiration might wish him to have possessed.

#### PERPETUAL MOTION.

Mr. Spence, the ingenious inventor of the constant motion by means of magnetism, has placed one of his clocks, which is driven by the unceasing action of a magnet, in one of the apartments of the Observatory, on the Calton Hill. It was deposited there on the morning of the 4th Dec last, and the key placed in the hands of Sir George Mackenzie, Bart. Vice President of the Astronomical Institution. Mr. Spence was induced to take this step, in consequence of the assertion of several individuals, that the motion was kept up by some cause different from magnetism.

### BALTIMORE:

FRIDAY, JUNE 4, 1819.

#### EDITORIAL NOTICES.

In some copies of the last number, material errors occurred, which the reader is requested to correct: In page 66, *hot much* should be substituted for "*not much*," and in the same page and column, speaking of the opinion of col. Taylor, of Virginia, and of Judge Peters, of Pennsylvania, as to the food of plants, we were made to say, "for it seems that he and Judge Peters *argue* better on these points," instead of *agree* better. We should not trouble ourselves or our readers, to have noticed this literal error, but that we would not even seem to have spoken thus irreverently of two gentlemen, so highly distinguished in the various walks of learning and public usefulness; whose services in the cause of the plough, have done more real benefit to the country, than one half the politicians in it. Would to God, that every one in his sphere, would do his duty to the commonwealth with the same zeal, the same disinterestedness, the same intelligence, and the same success, that they have, in their endeavors to improve our agricultural practices and prospects. In a letter from a gentleman, manifestly one of taste and science, which we have just opened, dated Gloucester county, Va. May 23d, 1819, he pays the following handsome and deserved compliment to the talents and public spirit of col. Taylor: His "*Arator*" has imparted a new complexion to the agricultural face of Virginia, below the mountains. In this lower section of the state, in which I reside, his little volume may be called the *vaile-mecum* of almost every cultivator of the soil: as it is known to be the genuine offspring of sound practical information and experience. To this little work we are certainly under the highest obligations; particularly as its publication has given life and activity to agricultural societies, which probably never would have been called into existence, or at least would have remained for a long time spiritless and dormant. Nor does the apparent ignorance of vegetable Physiology, which the author betrays, when he attempts to theorize on the pabulum of plants, detract, in the smallest degree, from the merit of the performance, in a practical point of view."

In the next number, we expect to publish some very interesting and valuable observations, made by Th. Griffin, Esq. of Yorktown, Va. on the use of the seaweed, called in that state sea ore, and properly termed kelp, as a manure. For these communications, a great number of farmers residing on the Chesapeake and the



shores of its tributary rivers, will feel themselves, as we do, under great obligations to the author. We here tender him our best acknowledgments in behalf of our readers, for the prompt, polite, and satisfactory manner in which he has replied to our inquiries on the subject. It is in this way, that gentlemen of experience most suitably manifest their gratitude to Providence, for the superior acquirements and advantages it has allotted them. Let us hope that it will become more generally the fashion for individuals to contribute their quotas of experience to the general stock, and so let good offices go round, as the sage Franklin observed, for mankind are all of one family.

Every thing from the pen of "Agri-cultor is useful and instructing; we only wish that we could have the benefit of hearing from him more frequently, and that he would add to the intrinsic value of all he writes, the weight of his own respectable signature.

We are happy, in having it in our power to announce a large and very valuable accession of French works, of modern date, to our agricultural library. When the reader reflects on the progress which agriculture, as well as other sciences have made in France of late years, the value of such an acquisition, in the prosecution of our labours, in the increased utility which it ought to confer on our paper, may be easily imagined.

The translation of a note on the "Ble de Mai," (Wheat of May) offered by Miss Bland, is particularly acceptable, and given to our readers with that pleasure we shall experience in promulgating every thing which may tend to increase the number and our knowledge of the cultivation of artificial grasses, in which we are so lamentably deficient. The grass, or grain, described in this translation differs, as it appears to us, from that sent from France, by General Armstrong, as it does from every other, of which we have seen any account. Its early and rapid growth, its excellence as food for milch cows, and its adaptation to sandy or gravelly land, makes it, in a measure, a desideratum, particularly in countries similar to the sea-board of Virginia and North Carolina. We have taken steps to procure some of it as soon as practicable; and, lest our attempt should fail, hope that gentlemen who enjoy facilities of communications with that country, will unite with us in the endeavour to get some.

The severest hail storm ever known in that part of the country, was experienced in Milledgeville, Geo. and its vicinity, on the 10th inst. It lasted for 15 minutes, and made great havoc among the window glass.—It was also very destructive to crops of small grain. Some of the stones were nearly six inches in circumference.

A most splendid ball was given in honour of the President of the United States, at Augusta, Geo. on the 17th instant.

#### GEOLOGY.

We observe with pleasure, that a geological society, consisting of professor Silliman, Col. Gibbs, and many other scientific gentlemen, has been formed in Connecticut. This interesting subject, until recently, has not attracted the attention, or commanded the abilities of Physiologists, in the proportion which its importance seems to demand. Newton ascended to the heavens, but he appears to have penetrated but a little way to the lower regions. There have been many hypotheses on the original formation of the earth, by Whiston and others, but all of them wild and conjectural: in short, they seemed to amount to mere guessing. Cuvier has of late treated the subject with great ability, so far as he has gone; but a great deal remains to be investigated and explained. Whence arise meteoric balls, oceanic currents, earthquakes, volcanoes, but more especially whence is the origin of rivers? If, as has been suggested, the principle of evaporation is not sufficient to account satisfactorily for this origin, it must almost of course follow, that there is an internal communication with the ocean; and this fact, once established, would lead, per-

haps, at last to a probable development of the whole internal machinery.—*Albany Argus.*

#### NOVEL INSECT.

TO THE EDITOR OF THE AMERICAN FARMER.

Cambridge, E. S. Md. May 29th, 1819.

SIR—An insect, of a very peculiar kind, has appeared among my tobacco, this season, and has been infinitely more injurious to it, than the cut worm, which last feeds only by night, and in cloudy weather; whereas, the former, by day, as well as night, and in all the varieties of weather, is equally voracious. I have never before seen a similar insect, nor can I learn that such an enemy was ever enrolled among the host that infests that plant.

I will attempt a concise description of this insect, so singular, and which threatens to be fatal to one of the most profitable crops of our state, that the inquiry and attention of farmers may be early drawn to an object, which may, at a future day, seriously command their consideration.

It is a winged insect, of the colyopterous order,\* about half an inch in length, of a conical figure: a long and sharp maxilla or mouth form the apex of the cone; its abdomen, a large and very obtuse base, and constituting about two thirds of the whole length of the insect; its trunk, connecting the two extremities converges in a regular slope, so as to form a perfect cone of the whole insect; its palpi are numerous and brush like; two long antennae; its six legs of equal length: colour of the wings and trunk, light and dark ray spots or blotches, the rest black.

This insect is, in point of habit, an anomaly in the insect tribe. The state in which that whole class of animals annoy vegetation, is that of the larvæ, or caterpillar; in the winged, or parent state, they have been deemed, I think, universally harmless, and I am pretty certain of the fact, in regard to all the variety of plants, that constitute the farmer's crops: but this insect, winged and fully matured, has, in a lot of thirty thousand hills of tobacco, growing finely, destroyed, in a few days after their appearance, at least one half of them.

What kind of larvæ this insect may produce, and what they may feed upon, in that state, I know not as yet, I have several of them in a transparent bottle, which I discover to feed freely upon young tobacco plants, and reject various other tender leaves, which I have given them. They will probably exhibit their progeny, with all their metamorphoses and transformations, which may afford some useful instruction, in respect to their history, habitudes, &c. by which means only, may we ever hope to counteract the destructive operations of the numerous insect class of animals, so extensively, and injuriously experienced by the farmer.

If, sir, you believe that a publication of the fact, may have a useful tendency, you have my permission to make it. To be early apprised of the approach of an enemy, is universally desirable.

#### AGRI-CULTOR.

##### NOTES TO THE ABOVE.

\* *Colyoptera*.—To most of the individuals of this extensive order, the term Beetle is applied, in common language; though, scientifically, it is confined to the first genus. All the species are furnished with membranous wings, cased in a pair of strong horny coverings, or shells. The order consists of thirty-two genera. See the *Tourist's Companion*, a new and valuable English work.

† *Palpi*, or *Feelers*.—These are another peculiarity attached to insects; they are mostly in pairs, in some four, and in others six; they are short jointed and moveable, but destitute of the coat, or covering, observable in the *Antennæ*; they are situated on each side of the mouth.

‡ *Antennæ*.—Horns, situated on the fore part of the heads of insects, jointed and moveable in every part, in which particular they differ from the horns of other animals.

#### CAPTURE OF PORTO BELLO AND DEFEAT OF M-GREGOR

Capt. Fleetwood of the schooner Sam, arrived here on Tuesday, in 25 days from Porto Bello, reports that General M-Gregor made his appearance off the harbor of Porto Bello on the 7th April. On the 8th he landed his forces, amounting to upwards of one thousand men, and on the day following entered and took possession of the place. He remained in possession twenty one days without succeeding in gaining any of the inhabitants over to his standard. The depredations and robberies of his party on the private property, compelled the inhabitants to abandon their houses and fly to the mountains for refuge. At the last of April, general Hore (Royalist) entered Porto Bello at six in the morning, and surprised M-Gregor and his followers, who were asleep. M-Gregor and five or six of his men escaped with difficulty by leaping from a window twenty feet high and swimming on board of one of his vessels.

Five hundred prisoners have been sent to Parama. There were sixty men killed and forty wounded, the greatest part of whom were officers. Stragglers were daily brought in from the neighbouring mountains. The Royalists lost 2 men killed and 4 wounded.—*American.*

#### FROM ANGOSTURA.

NEW YORK, May 30.

A gentleman direct from Angostura, which he left on the 3d inst. informs that Bolivar was on the right bank of the Aranca with about 4000 men, including a division of 900 Englishmen.—Morillo was on the opposite side with 6000. A brilliant affair took place on the 11th of April between the cavalry of the patriot Gen. Paez, and a part of Morillo's force, in which the royalists lost 500 men.

#### MASSACHUSETTS' ELECTION.

We understand the whole number of legal votes for Governor amounts to 79,885—necessary to a choice 39,943.—His excellency JOHN BROOKS has 42,875—Hon. BENJ. W. CROWNINSHIELD, 35,271. Scattering, 1730—Majority for Governor Brooks, 2932.

For Lieut. Governor—His honour WM. PHILLIPS had 42,781; Hon. BENJ. AUSTIN, 35,232: Scattering, 296.

Lieut. Col. Towson, of the U. S. Light Artillery, commanding the garrisons in Newport harbour, has resigned his commission in the army. The Newport Mercury observes, "the resignation of this gallant soldier deprives our country of the services of one of its most distinguished officers. Col. Towson will carry with him the respect and attachment of all classes of our citizens."—*Boston paper.*

#### Contemplated Improvements in Boston.

A new Episcopal Church is to be erected in Common street, which will probably be commenced this month.

Another, for Rev. Mr. Sabine, is to be erected in Rowe's pasture.

Also, is to be erected, in that place, a convent as an appendage to the Catholic Church; and a very commodious Amphitheatre, or summer Theatre, in Washington Gardens.

Capt. Biddle, of the United States' Navy, in a letter to Commodore Bainbridge has given a very satisfactory account of the affair between himself and Lord Cochran, relative to which a garbled correspondence appeared sometime since in the public papers.

#### HON. TIMOTHY PICKERING.

With pleasure, says the Essex Register, have we ridden on the southern Banks of the Merrimac, and have heard the European, proud of their soil and its cultivation say, these lands look like the villages of my own country.

We should not overlook the good services of the President of the Essex Agricultural Society, (Hon. Timothy Pickering,) who has suffered no one to exceed him in zeal and personal services in this kind design, and now has imitated the virtue of the heroic sages in giving to agriculture the hours of his repose from public cares, that when he retires he may leave a blessing on the earth he has inhabited.

Capt. Wright, of the British navy, has been dismissed from service, for smuggling 53 yards of crape, &c.

### THE POTATO.

It has often been made a question, what was the native country of the potato? and it is easy for us to participate in the curiosity respecting the original of a root that makes so important an article on a Yankee table.—In the Delaware Watchman, the following account has been given, as settling the question. By the way, which Joel Barlow so sweetly sung the charms of *Hasty Pudding*, we could wish he had also introduced by its side the lovely *Potato*.

*"Its cheeks all glowing with a tempting red."*

**Interesting Discovery.**—Dr. Baldwin, late Surgeon of the frigate Congress, has decided the controversy respecting the *habitat* of the Potato, *Solanum Tuberosum*. He found this vegetable growing abundantly on the north side of the Rio de la Plata; in wild uncultivated situations, unknown to the inhabitants, who do not even cultivate this valuable plant, now so generally attended to in most parts of the civilized world.

It is found growing among the rocks on Monte Video, and in the vicinities of Maldonado, in the sand hills on the river shore, as well as in low moist situations, near streams of water. The largest tubers were not more than half an inch in diameter.

\*\*\* In the "Historical Remembrancer," we find the following record on the subject.—"Potatoes brought to England, from America, by Hawkins, 1563; introduced into Ireland, by Sir Walter Raleigh, 1586; not known in Flanders until 1750. They were natives of a province of Quito, and are named from the village of Potate, in the assiente of Aambato, in that kingdom.—*Boston Centinel*.

We observe by an advertisement, that a couple of Boston Druggists have prepared what they denominate Soda Powders, enough is sold for 50 cents to make one dozen rumblers of Soda Water, containing a profusion of fixed air.

At a saw mill one mile east of Chadd's ford, across the Brandywine, Del. and about the middle of last March, as a man was sawing a large poplar log, he was surprised in hearing the saw strike against something very unusual, that obliged him to stop the mill; upon examination, it proved to be a cannon ball, of four pounds weight, completely grown over, so as to leave no mark. It appears evident, from every circumstance, that this ball was discharged from the American battery on the day of the battle of Brandywine, Sept. 12, 1777, as the tree in which it was found grew just back of the ground where the British soldiers were encamped. From that time to the present is more than forty-one years, that it has lain perfectly harmless, though we cannot say what damage it may have done in its passage from the gun to the tree.

*Village Record.*

*Translated from the French, and communicated for the American Farmer, by Miss S. B. P. Bland.*

### A NOTE ON A SPECIES OF GRAIN OF EGYPT, CALLED

#### Wheat of May,

BY MR. BOTTIN.

There has been cultivated, for some years past, in Belgium, a peculiar kind of wheat, originally from

Egypt, the vegetation of which is so rapid, that it may be gathered in three months after being sown. Every one must be sensible of the importance such a culture may be of in disastrous years; and we therefore give here with pleasure, the substance of a communication inserted in the Physico-economic Library, a pamphlet of May, 1817, digested by Mr. Bottin, from documents that he obtained of Belgian farmers, who had applied themselves to this culture. This wheat was brought from Egypt by a Belgian soldier, who was in the French expedition to that country. He was told, that it yielded, in that country, two crops a year. He gave a small quantity of it to one of his friends, who sowed it in his garden, where it succeeded perfectly well. This grain was soon transplanted from the nursery to the fields, and was naturalized by extensive experiments, made during seven years, on an extent of more than 150 kilometres, (or 11a. 1r. 7p. 77yd. 8 s. f.) in Brabant Flanders, and Hanover.

Mr. L. Thomas, of Gosselies, near Waterloo, was the first who undertook to extend its cultivation. He got from the person who had tried an experiment with it in his garden, nearly seven hectogrammes, (or a pound and a half,) he sowed a bed of it, towards the middle of April, 1812. He was recommended to sow it very thin. When it began to grow, the young plants appeared so sparse that he considered the experiment as lost, and scattered carrot seed over the bed where he had sown it; but what was his surprise, when afterwards he saw spring forth as many as thirty ears from the same stalk, and his little field entirely covered with wheat! His surprise was not yet augmented, when a hundred days after it was sown, he saw it in a state of maturity. The crop produced him nearly 348 hectogrammes (or 74 lbs. 6 oz.)

In 1813, Mr. Thomas gathered a great deal of this grain; in 1814, his crop was 600 kilogrammes, (or about 1,250 lbs.)—he distributed a part of it to many farmers, who made a great quantity of it, particularly Mr. Art, of Gemappes. In 1815, the field Mr. Thomas had sown with Egyptian wheat, was laid waste by the soldiery, and he gathered from it no more than 340 kilogrammes for about 150 lbs.) of grain; but in 1816, his success was such, that his crop of Egyptian wheat was a third more than the best common wheat of that year, and as heavy.

This circumstance, of the great abundance of the Wheat of May, the name by which it is generally known in Belgium, compared to that of the autumnal wheat, appears very remarkable, especially in a year, when bad seasons were so destructive to the crops of grain in general; so much so that 150 kilometres (or more than 93 m.) from there to Zonnebeke, near Ypres, in the same year of 1816, Mr. Delevalley obtained from a considerable sowing made on the 23d April, in heath land, that had only been three years in cultivation, and of bad soil, deemed unfit even for the production of wood, a Wheat of May, heavier than the best wheat that he had gathered in the same year; and of which, bread, of an excellent quality has been made. Thus, the opinion of these two farmers, Messrs. Thomas and Delevalley, is, that the Wheat of May will grow better than any other in sandy and gravelly soil.

M. Bottin adds, that bread of the flour of the Wheat of May, is of a kind between that of autumnal wheat and of rye: that it is good, well tasted, and very wholesome; it is of a browner colour than common wheat bread, but less so than that of rye. Its crust is very cohesive? it is more easy to digest than rye bread, especially when it is sufficiently sifted; its fine bolted flour differs in nothing from that of wheat.

It has been ascertained that the Wheat of May afforded much alcohol, by distillation, and that it would be no less profitable to the brewer.

The Wheat of May may be compared, with regard to culture, its quality, and its product, to the three months grain, the tremenon and dimenon

spoken of by Theophrastus and some other ancient Greek authors; to the three months grain of Pliny, to the *setonius* of Dioscoredes and of Galen; it is the same, perhaps, as the *trimenis* of Salernum, of Lucania, and of Calabria; the same as *tuminia* of Sicily, the *grano mezzatica* of Naples, and the *grano mezzatica* of Tuscany.

It has the appearance in its growth of barley, and it is easily affected by frost. In 1814, at Gosselies, its tops were nipped one night, in the latter end of April; notwithstanding this accident, the harvest was abundant. The stalk, as it approaches maturity, has more strength, and sustains itself better than any other grain; the heads are bearded, and the beard adheres to the straw, as in autumnal wheat, and not to the grain, as that of ripe barley. Mr. Thomas observed in 1813 and '14, that as it ripened, the beards fall from a great number of ears, and that then the ears of the Wheat of May, much resembled those of the common wheat. In 1816, on the contrary, all the heads preserved their beards, which Mr. Thomas believes may be attributed to the coolness and great humidity of the season.

The grain of the Wheat of May is red, of the same form, but somewhat smaller, than that of winter wheat; also, its stalk is not quite so high, and is hollow like that of the latter. Horses eat this straw as readily, and perhaps more willingly, than the common kind, because it is more tender.

Mr. Thomas cut it three times, from month to month, from the same field, to give it green to his cows, and he obtained from them, whilst they fed on it, excellent milk, and in great quantity. He thinks, but without having made the experiment, that it might be given green to horses, with equal advantage.

**Wonderful Expedition.**—The Post Chaise Line, via Staten Island, Left New York on Monday morning, quarter past 2 o'clock, and arrived here 5 minutes before 11 o'clock, bringing us, the New York newspapers of the same morning, having performed the route in 8 hours, 40 minutes. The passengers dined at Renshaw's elegant Hotel, and having transacted their business, returned in the same Line to New York, where they intended taking an early supper.

The Citizens Post Coach left New York on Monday morning, at 5 o'clock, and arrived at Judd's Hotel, 5 minutes before 1 P. M. By this Line, we also received the New York papers of Monday morning. Route, by day-light performed in 7 hours, 55 minutes.

Can any thing in Europe equal this?—*Phila. Free Jour.*

### Present prices of Country produce, in the Baltimore Market.

The same reasons which induced us last week to omit the current prices of tobacco, still exist, and prevent our attempting to give a regular fair quotation; we were advised to say, for St. Mary's tobacco, from 6 to \$8; Benedict, 8 to 10; and Upper Patuxent, 10 and \$12; but we learn within the week, that 8 50 and \$10 50, have been refused for twenty hogsheads, Mr. John Southorn's from Chaptico, of fine quality. At the same time, we know of a small parcel of St. Mary's, having sold for \$7; so that we must leave the Planter to his own calculations and patience.

Wheat, red, from 1 10 to \$1 12 1-2.

white, 1 15 to \$1 20.

Rye, 75 to 80 cents.

Corn, 44 to 48 do.

Hay, 18 a \$19; Straw, 13 a \$14.

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